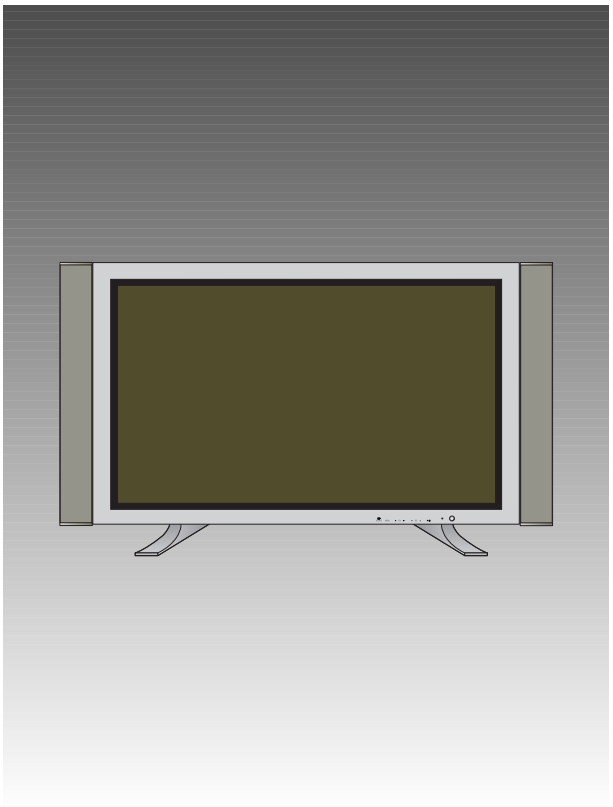
SAMSUNG

PLASMA DISPLAY TV

Chassis : **D62A(N)**
Model: **PPM50H3X/XAA**

SERVICE Manual

PLASMA DIAPLAY TV



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1. Specifications

MODEL		PPM50H3
Dimensions	Display	1204.6(W) x 79(D) x 7245(H) mm / 47.43(W) x 3.11(D) x 28.5(H) inches
Weight	Display	43 Kg (without stand)
Screen Size		50 Inches
Voltage		AC 120V, 60Hz / AC 100-250V, 50/60Hz
Power Consumption		480 Watts
Number of Pixels		1366(H) X 768(V)
External Control		RS-232C IN(Mini jack), RS-232C OUT(D-SUB 9P)
AUDIO Input		VIDEO / S-VIDEO COMPONENT 1 COMPONENT 2 RGB(PC) 1/2 DVI
AUDIO Output		External Speaker (10W+10W) Audio Output (L/R RCA)
VIDEO Input		VIDEO S-VIDEO COMPONENT 1 - 480i / 480p / 720p / 1080i COMPONENT 2/RGB2(PC) IN (BNC, 5P, 480i~1080i, VGA~XGA) RGB1(PC1) - D-SUB 15P DVI
VIDEO Output		Monitor Output (RCA)

MEMO

2. Alignment and Adjustments

2-1 Service Mode

2-1-1 SERVICE MODE Entry Method (General Transmitter)

■ For the General Transmitter

1. Turn the power off and set to stand-by mode.
2. Press the buttons of the transmitter in this order; Info-Menu-Mute-Power or Mute-1-8-2-power to turn the set on.
3. The set turns on and enters service mode.

* If you fail to enter service mode, repeat steps 1 and 2 above.

2-1-2 Initial DISPLAY State of SERVICE MODE

2-1-2(A) OSD DISPLAY

SERVICE MAIN

1. VSP9437-1	9. CXA2101
2. VSP9437-2	10. LOGIC
3. FLI2300	11. TP LOG-ASI
4. ASI500-1	12. Option
5. ASI500-2	13. CheckSum 0000
6. DNIe	14. Reset
7. AD9888	
8. CXA2151	

Release : 2003-07-12 T_NEW 50MWW_1001

2-1-2(B) Button Operations in SERVICE MODE

Menu	Displays all menus
UP/DOWN Key	Cursor move to select items
LEFT/RIGHT Key	Enable to increase and decrease the data of the selected items

2-1-3 Factory Data Initial Value

VSP9437-1 (VIDEO)				VSP9437-2		FLI2300	
V PEAKING	16	PAL 60	27	V PEAKING	16	Y DELAY	05
HPLL SPEED	00	PAL M/N	01	HPLL SPEED	01	C DELAY	12
RGB/YUV CONTRAST	41	PAL	01	PAL	01	CONTRAST	95
RGB/YUV BRIGHTNESS	248	SECAM	27	SECAM	27	BRIGHTNESS	185
YUV SATCB	26	NTSC	01	NTSC	01	SATURATION	110
YUV SATCR	26	NTSC 4.43	27	PAL AV	01		
PAL B/G	01	PAL 60	27	SECAM AV	27		
PAL D/K	01	NR	01	NTSC AV	01		
PAL I	01						
SECAM B/G	27						
SECAM D/K	27						
SECAM L'/L	27						
NTSC M	01						
NTSC 4.43	27						

ASI500I (VIDEO/PC,DVI)				ASI500II	
R CONTRAST	32/30	FILTER YPASS	00	PIP R CONTRAST	32
G CONTRAST	32/30	R GAMMA	32	PIP G CONTRAST	32
B CONTRAST	32/30	G GAMMA	32	PIP B CONTRAST	32
R BRIGHTNESS	00	B GAMMA	32	PIP R BRIGHTNESS	00
G BRIGHTNESS	00	H POSITION	00	PIP G BRIGHTNESS	00
B BRIGHTNESS	00	V POSITION	00	PIP B BRIGHTNESS	00
TEXT ALPHA	01	H SIZE	00	PIP FILTER IC	00
TEXT THRESHOLD	07	V SIZE	00	PIP FILTER ML	00
FILTER ML	00	OVERSCAN R	50	PIP FILTER MR	00
FILTER MR	00	OVERSCAN G	50	PIP FILTER UC	00
FILTER FR	00	OVERSCAN B	50		
FILTER MC	16				
FILTER UC	00				
FILTER LC	00				

DNIe (VIDEO / PC, DVI)				AD9888 (VIDEO / COMP/ PC)	
BRIGHT OFFSET	Attachment	TH CORING	02	R GAIN	127/190/127
CONTRAST OFFSET	Attachment	PATT SEL	00	G GAIN	127/213/127
SCALE MAX Y	48	NOISE TH3	100	B GAIN	127/206/127
SCALE MIN Y	16	H CONT	32	R, CR OFFSET	54/79/54
TH HPF	00	V CONT	32	G, Y OFFSET	54/34/54
TH DEGE	04	BLACK GAIN	375	B, CB OFFSET	54/75/54
NR SEL	02	WHITE GAIN	375	VIDEO PATH	PC
CE UPPER	220	WTE GAIN	300	AUTO COLOR	OFF
CE CUTOFF	45	CTE GAIN	176		
CE GAIN	64	H SHARP GAIN	127		
DCE GAIN	190	V SHARP GAIN	127		
SKIN ON	00	SHARPNESS	100		
CTI GAIN	00	CLK DLY	07		
DE NOISE GAIN	08	H POSI	14		

CXA2101				CXA2151	
PICTURE	16	SUB-BRIGHT	35	GAIN SEL	01
HUE	31	CR-OFFSET1	07	CB GAIN	07
COLOR	16	CB-OFFSET1	07	CR GAIN	07
BRIGHT	61	SUB-CONT	12	Y GAIN	01
SHARPNESS	28	SUB-COL	08	HFREQ	00
R-DRIVE	04	SUB-HUE	08		
G-DRIVE	04	R-Y/R	13		
B-DRIVE	04	R-Y/B	15		
R-CUTOFF	32	G-Y/R	12		
G-CUTOFF	32	G-Y/B	04		
B-CUTOFF	32				

LOGIC (PDP DRIVER)			
R DRIVE	Attachment	ACTIVE V POS	12
G DRIVE	Attachment	ACTIVE H POS	19
B DRIVE	Attachment	V SYNC POS	03
R CUTOFF	Attachment	H SYNC POS	32
G CUTOFF	Attachment	V SYNC WIDTH	02
B CUTOFF	Attachment	H SYNC WIDTH	12
GAMMA	01		
GTS SET	01		
ERD MODE	01		
RANDOM NOISE	01		
DIFF FILTER	01		
APC	01		
APC SET	00		
APC VALUE	127		
TP LOG-ASI (TEST PAT LOGIC /SCALER)		OPTION	
LOG PATTERN	00	PIXEL SHIFT	V
LOG HIGH LEVEL	00	SHIFT TEST	OFF
LOG LOW LEVEL	00	PIXEL NMBER	04
ASI COLORBAR	00	SHIFT LINE	04
		SHIFT TIME	04
		RGB DNIe	OFF
		DNIe DEMO	OFF
		DNIe THROUGH	OFF
		VIDEO MUTE	00
		1366 x 768	ON
		MDC ENABLE	ON
		LAST MEMORY	ON

■ Attachment

IC	ITEM	W/B Data			
		Video , S-VHS	Component	PC	DVI
SNI	Bright	9	15	00	00
	Contrast	243	7	00	00
Logic	R Gain	147	125	125	125
	G Gain	130	130	130	130
	B Gain	114	105	105	97
	R Cutoff	240	02	02	00
	G Cutoff	0	0	00	00
	B Cutoff	0	243	243	254

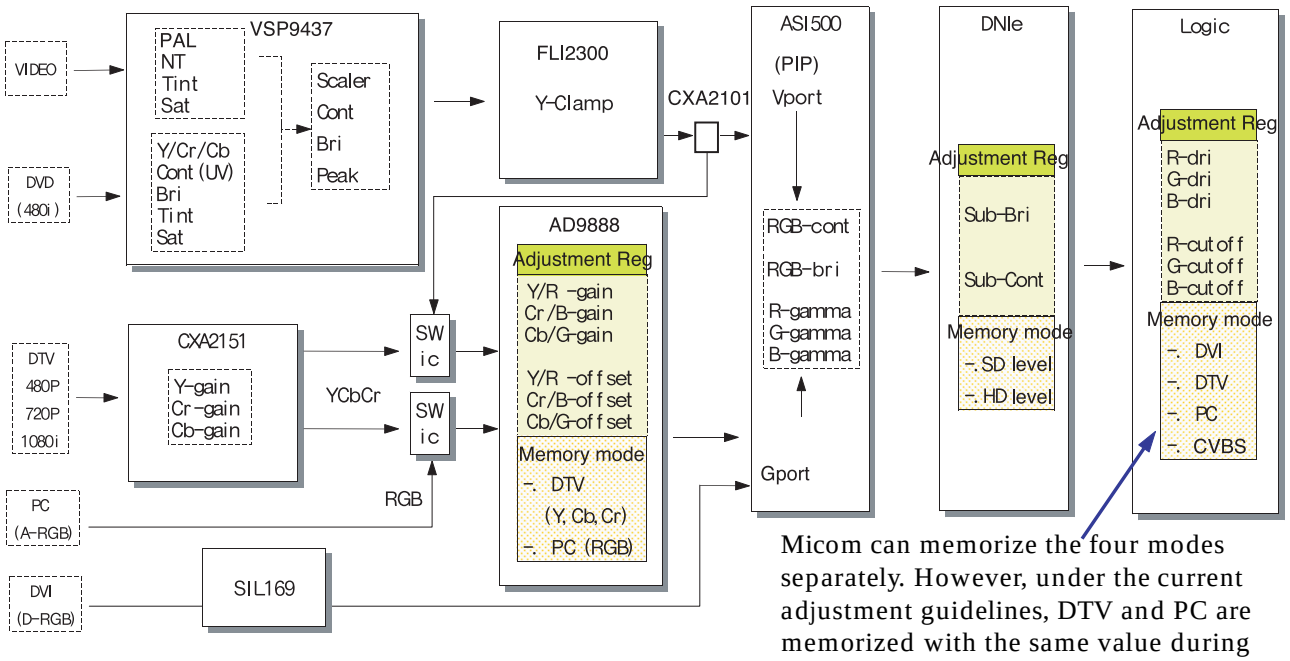
Alignment and Adjustments

2-2 WHITE Balance Coordinates

2-2-1 White Balance Adjustment

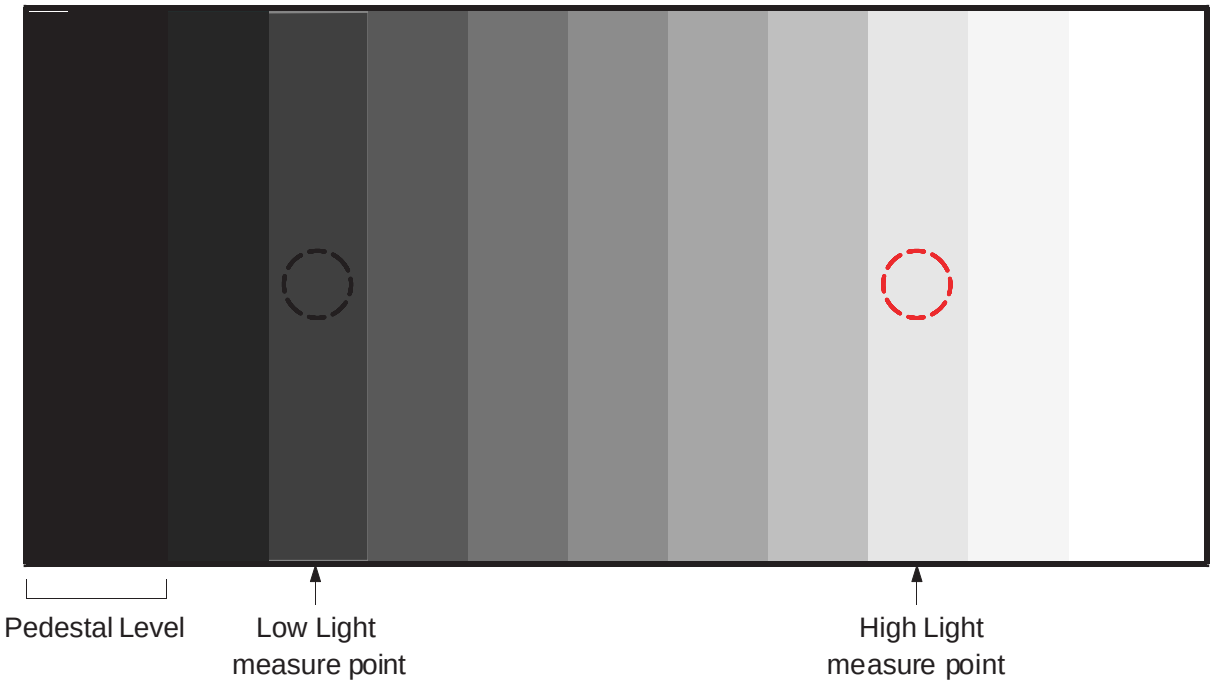
1. W/B Adjustment is required for the following four modes: DVI → DTV → PC → CVBS(VIDEO) → CVBS(VIDEO PIP)
2. Adjustment Method (DVI, DTV, PC : VG828, CVBS : Adjust RF signals to match the Toshiba pattern (in-house signal)
   - ① Adjust the target set by adjusting the panel logic and the video DNIe adjustment register in register in order to determine the referential W/B of the panel with a DVI input, which is the full digital path.
   - ② For DTV adjustment, adjust the adjustment register of ad9888 to align the DTV signal to the DNIe and logic panel value which was fixed with a DVI adjustment so that they are in effect considered to be the same signals. (At this time, do not adjust the gain of AD9888 → the Highlight W/B does not need to be adjusted since its deviation falls within valid distribution range.)
   - ③ PC adjustment is same as DTV adjustment. (The offset can be applied to the values obtained through DTV adjustment. However, additional adjustment is required for Y, Cb, and Cr of DTV since PC processes R, G, and B signals.)
   - ④ cvbs adjustment is performed with the Toshiba pattern (in-house signal) and differs from the VG828 signals in the above three modes. Hence, it should be performed with the same method of ① DVI adjustment.
   - ⑤ Finally, activate PIP in video mode, and repeat W/B adjustment.

❊ Thus, Micom saves the W/B data separately for each memory mode of the block (See the block diagram given below) during W/B adjustment.



Micom can memorize the four modes separately. However, under the current adjustment guidelines, DTV and PC are memorized with the same value during DVI adjustment and CVBS is memorized with a separate value.

2-2-2 White Balance Coordinates by Mode



		DVI	DTV COMPONENT (480P, 720P, 1080i)	PC	VIDEO
H/L	x	285	285	285	285
	y	295	295	295	295
	Y(fL)	25	31.5	20	31.5
L/L	x	285	285	285	285
	y	295	295	295	295
	Y(fL)	0.8	0.8	0.8	1.0

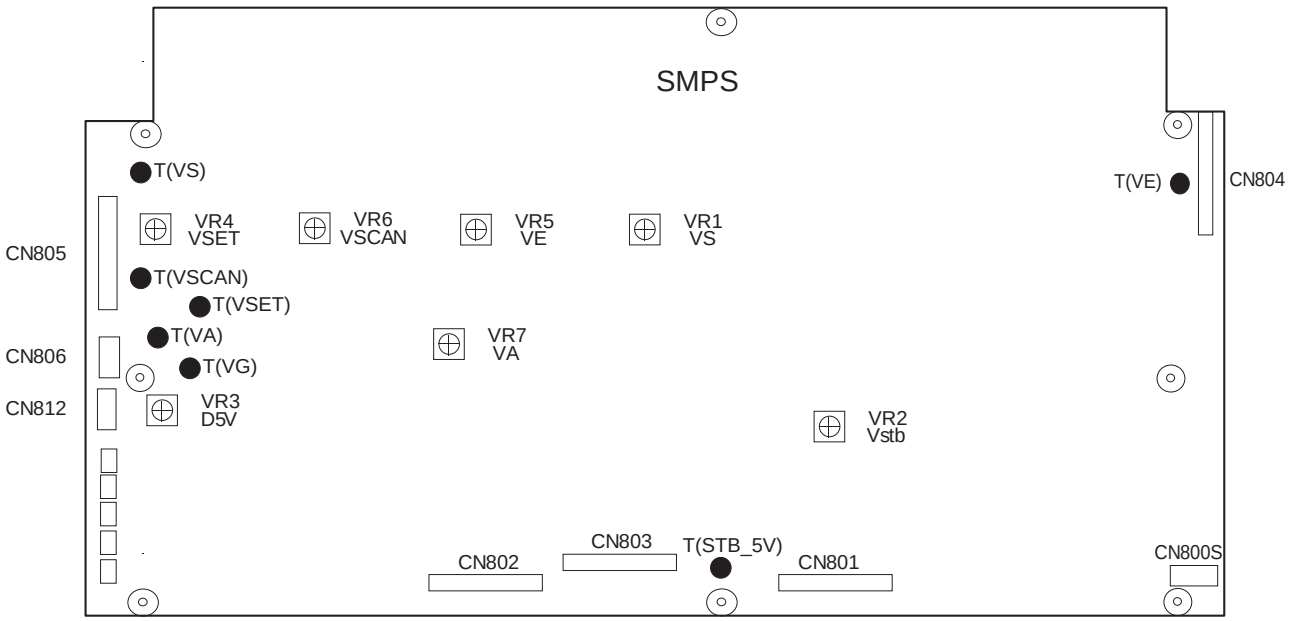
- Pattern Used in Adjustment : 10 Steps Gray scale pattern

2-3 Voltage Adjustment

● Turning the variable resistor(VR) adjusts voltage.

T : Test Point

VR: Variable Resistor



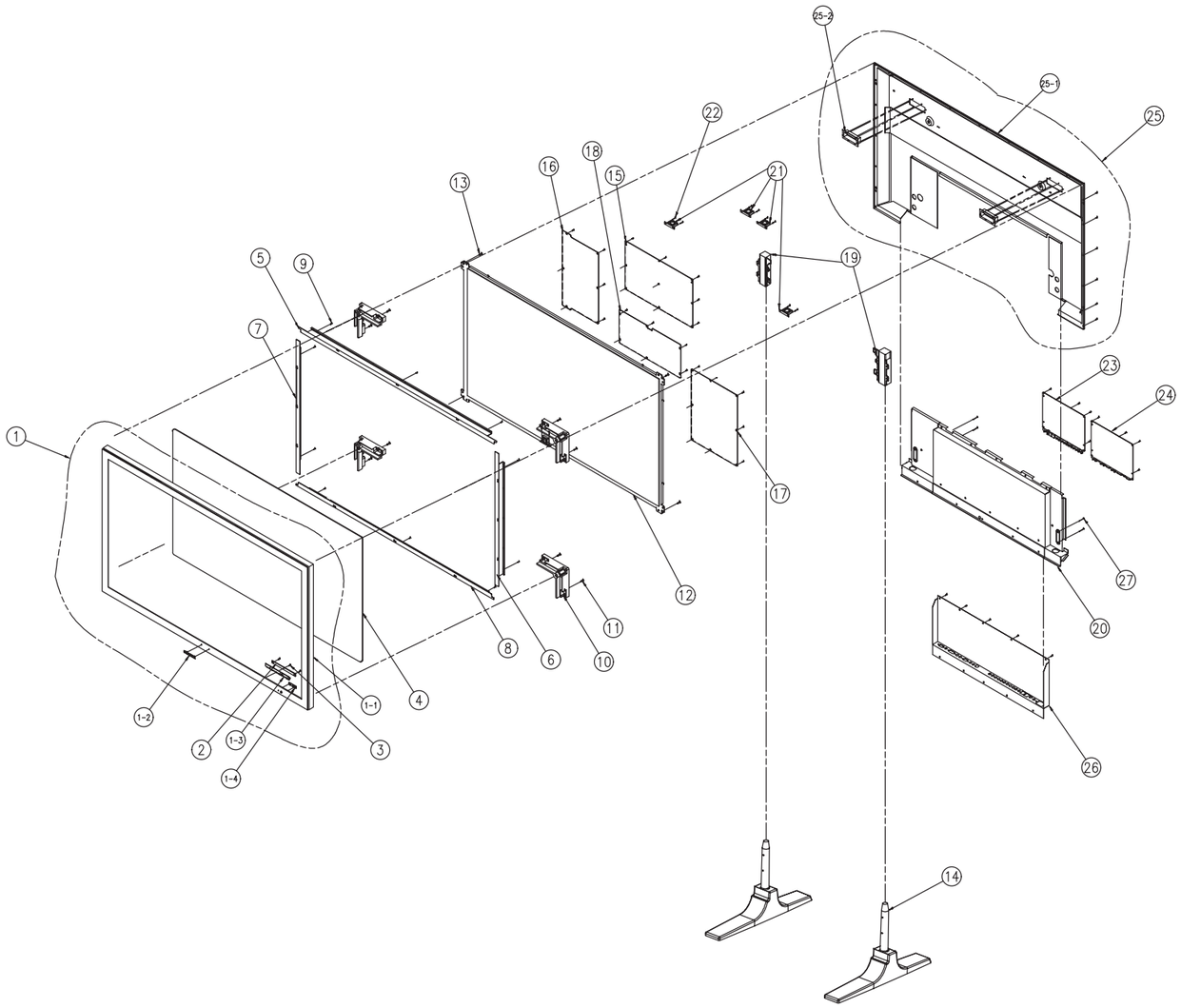
OUTPUT	Voltage(V)
VA	See the labels attached on the base chassis.
VSCAN(VSC)	
VS	
VE	
VSET	
D5V	+5V
STB_5V	+5V
VG	+15V

MEMO

3. Exploded View & Parts List

3-1 PPM50H3X/XAA

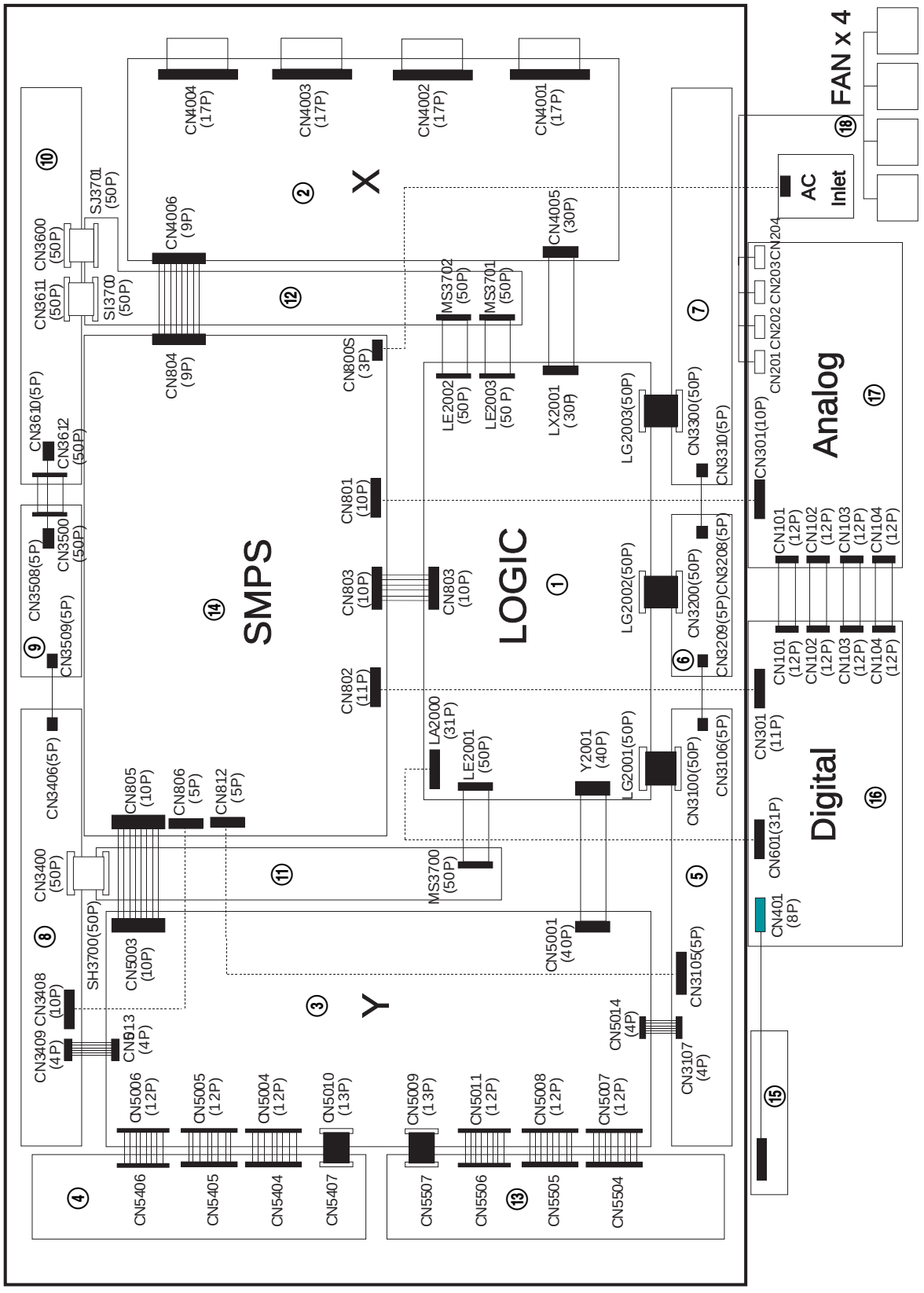
You can search for the updated part code through ITSELF web site.
URL : http://itself.sec.samsung.co.kr



No	Code No	Description;Specification	Q'ty	Remark	S.N.A
1	BN96-00172P	ASSY COVER P-FRONT;50P3,HIPS V0,WP1000 S	1	M0001	S.N.A
1-1	BN64-00098A	CABINET FRONT;50P3H,HIPS,HB,DGM1262+SV012P	1		S.N.A
1-2	BP64-00177A	BADGE-BRAND;ALL,AL,T1.5,70,11.3,BLK,SILI	1	T0057	S.N.A
1-3	BP64-00045B	KNOB CONTROL;P3,ABS,HB,GRY,SVM3012	1	T0022	
1-4	BN64-00074B	WINDOW-REMOTE;42P3S,PMMA,,,,,,CLEAR	1		S.N.A
2	BN94-00494C	ASSY PCB MISC-CONTROL;SPD-50P3H,D56A/D59	1	T0098	
3	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	3	T0081	S.N.A
4	BN64-00125A	SCREEN-EMI,FITER;FILTER,50P3,T47%,1155+6	1	T0055	
5	BN61-00262C	BRACKET-FILTER TOP ASSY;50P3H,AL5052,T1.	1		S.N.A
6	BN61-00263C	BRACKET-FILTER,SIDE,LEFT;PS50P3H,AL5052,	1		S.N.A
7	BN61-00323C	BRACKET-FILTER SIDE(R) ASSY;50P3H,AL5052	1		S.N.A
8	BN61-00264C	BRACKET-FILTER BOT ASSY;50P3H,AL5052,T1.	1		S.N.A
9	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	10	T0081	S.N.A
10	BN61-00141A	HOLDER-MODULE;42P3,AL,DIECASTING	4	T0081	S.N.A
11	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	8		S.N.A
12	BN96-00153A	ASSY PDP P-MODULE;M3,S50HW-XD02,D54A,D2.	1	T0044	
13	6006-001126	SCREW-ASS'Y MACH;WSP,PH,+,M5,L12,NI PLT,	4	EL013	
14	BN61-00674A	STAND-BASE;PPM42S3,PPS	2	M0143	S.N.A
15	BN96-00249A	ASSY PDP P-SMPS;,SPD-50P3H,D57A,50HD,445	1	T0046	
16	BN96-00236A	ASSY PDP P-PBA X MAIN;LJ92-00640A,SPD-50	1	T0033	
17	BN96-00237A	ASSY PDP P-PBA Y MAIN;LJ92-00641A,SPD-50	1	T0032	
18	BN96-00235A	ASSY PDP P-PBA L MAIN;LJ92-00645A,SPD-50	1	T0037	
19	LJ61-00829A	GUIDE-STAND;50P3H,AL DIECASTING	2		
20	BN96-00266D	ASSY COVER P-BACK SUB;PPM50H3,AL3032 T1.	1	T0008	S.N.A
21	BN31-00001A	FAN-ASSY;G4020S05B2-RS,PBTP,UL94-Vo,Brac	4	T0243	
22	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	8	EL013	S.N.A
23	BN94-00494R	ASSY PCB MISC-DIGITAL;PPM50H3,D62A,NEWTO	1	T0132	
24	BN94-00420Y	ASSY PCB MISC-ANALOG;PPM50H3,D62A,VMB	1	T0145	
25	BN96-00173C	ASSY COVER P-BACK;PPM50H3,AL3032 T1.2,DG	1	T0001	S.N.A
25-1	BN63-00358B	COVER-BACK;PPM50H3,AL3032,1.2,VMB,DGM-52	1	T0112	S.N.A
25-2	BN61-00202A	BRACKET-HANDLE;42P3S,AL5052,T1.5,DGM-S81	2		S.N.A
26	BN96-00286F	ASSY MISC P-BRACKET TERMINAL;P3,VMB	1		S.N.A
27	6006-001194	SCREW-ASSY TAPT;WP,BH,+,M4,L20,ZPC(BLK),SWRCH18A	4		

4 Electrical Parts List

4-1 ASSY BOARD & PARTS LIST FOR SERVICE



NO	DESCRIPTION	CODE NO	SPECIFICATION
	ASSY PDP P-MODULE	BN96-00153A	M3,S50HW-XD02,D54A,D2.0,1185x701x59mm,1366x768 HD,NTSC/PAL,50INCH
1	ASSY PDP P-PBA L MAIN	BN96-00235A	LJ92-00645A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00645A
2	ASSY PDP P-PBA X MAIN	BN96-00236A	LJ92-00640A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00640A
3	ASSY PDP P-PBA Y MAIN	BN96-00237A	LJ92-00641A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00641A
4	ASSY PDP P-PBA Y BUFF(UP)	BN96-00238A	LJ92-00642A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00642A
5	ASSY PDP P-PBA L BUFF(E)	BN96-00239A	LJ92-00646A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00646A
6	ASSY PDP P-PBA L BUFF(F)	BN96-00240A	LJ92-00647A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00647A
7	ASSY PDP P-PBA L BUFF(G)	BN96-00241A	LJ92-00648A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00648A
8	ASSY PDP P-PBA L BUFF(H)	BN96-00242A	LJ92-00649A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00649A
9	ASSY PDP P-PBA L BUFF(I)	BN96-00243A	LJ92-00650A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00650A
10	ASSY PDP P-PBA L BUFF(J)	BN96-00244A	LJ92-00651A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00651A
11	ASSY PDP P-PBA SUB (R)	BN96-00245A	LJ92-00652A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00652A
12	ASSY PDP P-PBA SUB (L)	BN96-00246A	LJ92-00653A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00653A
13	ASSY PDP P-PBA Y BUFF(DOWN)	BN96-00247A	LJ92-00643A,SPD-50P3H,D57A,50INCH,ALEXANDER,SDI CODE LJ92-00643A
14	ASSY PDP P-SMPS	BN96-00249A	,SPD-50P3H,D57A,50HD,445*245,42MM_MAX,90V~264V,NTSC,50INCH,ALEXANDER,SEMCO
15	ASSY PCB MISC-CONTROL	BN94-00494C	SPD-50P3H,D56A/D59A,ALEXANDER 50P3
16	ASSY PCB MISC-DIGITAL	BN94-00494R	PPM50H3,D62A,VMB
17	ASSY PCB MISC-ANALOG	BN94-00420Y	PPM50H3,D62A,VMB
18	FAN-ASSY	BN31-00001A	G4020S05B2-RS,PBTP,UL94-Vo,Bracket,BN61-00624A
	SCREEN-EMI,FILTER	BN64-00125A	FILTER,50P3,T47%,1155+671,T3.0,0.1ohm
ACCESSORY	REMOCON	BN59-00366A	TM76,D61A,42,G6148,PPM42S3,EX
ACCESSORY	CBF SIGNAL (D-SUB 15P)	AA39-00288A	HPL5025M,15P/15P,2990,1830MM,UL2990,BLACK,D-SUB/MALE ,DET. TYPE
ACCESSORY	CBF SIGNAL (MDC CABLE)	AA39-00311A	PDP,9P/1P,UL2851#28,5000MM,UL2851,BLK,DSUB/STEREO PLUG,2C,SJ01-01-296
ACCESSORY	CBF POWER CORD	AA39-10004E	-,KJP120/KJC303,SVT 3/18AWG,1.
ACCESSORY	LEAD CONNECTOR (SEAKER CABLE)	BN39-00315A	D54A/SPD-42P3S,UL1007#24,UL/CSA,2P,2000MM,#24,SME-00014,STRIP,BK,1007#24
ACCESSORY	S/W DRIVER-7.0 (PIVOT S/W)	BN59-00048A	SYNCMASTER,PIVOT,SAMSUNG
ACCESSORY	S/W DRIVER (MDC S/W)	BN59-00382A	PPM42S3,RS232C-PROGRAM,Worldwide,CD-ROM
ACCESSORY	MANUAL USERS	BN68-00457B	PPM42S3/50H3/63H3,EN/GE/FR/IT/SP,W/P100G,D61A,B5,VMB

4-2 SERVICE ASSY LIST

RM101	AA32-00013B	MODULE REMOCON;346HF5,38KHz,940mm,MESH,H	1
M0114	AA39-00288A	CBF SIGNAL;HPL5025M,15P/15P,2990,1830MM,	1
M0114	AA39-00311A	CBF SIGNAL;PDP,9P/1P,UL2851#28,5000MM,UL	1
T0077	AA39-10004E	CBF POWER CORD;-,KJP120/KJC303,SVT 3/18A	1
T0074	BN59-00366A	REMOCON;TM76,D61A,42,G6148,PPM42S3,EX	1
T0145	BN94-00420Y	ASSY PCB MISC-ANALOG;PPM50H3,D62A,VMB	1
T0098	BN94-00494C	ASSY PCB MISC-CONTROL;SPD-50P3H,D56A/D59	1
T0132	BN94-00494R	ASSY PCB MISC-DIGITAL;PPM50H3,D62A,NEWTO	1
T0044	BN96-00153A	ASSY PDP P-MODULE;M3,S50HW-XD02,D54A,D2.	1
M0001	BN96-00172P	ASSY COVER P-FRONT;50P3,HIPS V0,WP1000 S	1
T0001	BN96-00173C	ASSY COVER P-BACK;PPM50H3,AL3032 T1.2,DG	1
T0037	BN96-00235A	ASSY PDP P-PBA L MAIN;LJ92-00645A,SPD-50	1
T0033	BN96-00236A	ASSY PDP P-PBA X MAIN;LJ92-00640A,SPD-50	1
T0032	BN96-00237A	ASSY PDP P-PBA Y MAIN;LJ92-00641A,SPD-50	1
T0031	BN96-00238A	ASSY PDP P-PBA Y BUFF(UP);LJ92-00642A,SP	1
T0038	BN96-00239A	ASSY PDP P-PBA L BUFF(E);LJ92-00646A,SPD	1
T0039	BN96-00240A	ASSY PDP P-PBA L BUFF(F);LJ92-00647A,SPD	1
T0040	BN96-00241A	ASSY PDP P-PBA L BUFF(G);LJ92-00648A,SPD	1
T0041	BN96-00242A	ASSY PDP P-PBA L BUFF(H);LJ92-00649A,SPD	1
T0035	BN96-00243A	ASSY PDP P-PBA L BUFF(I);LJ92-00650A,SPD	1
T0036	BN96-00244A	ASSY PDP P-PBA L BUFF(J);LJ92-00651A,SPD	1
T0258	BN96-00245A	ASSY PDP P-PBA SUB (R);LJ92-00652A,SPD-5	1
T0256	BN96-00246A	ASSY PDP P-PBA SUB (L);LJ92-00653A,SPD-5	1
T0047	BN96-00247A	ASSY PDP P-PBA Y BUFF(DOWN);LJ92-00643A,	1
T0046	BN96-00249A	ASSY PDP P-SMPS;,SPD-50P3H,D57A,50HD,445	1
T0008	BN96-00266D	ASSY COVER P-BACK SUB;PPM50H3,AL3032 T1.	1
T0022	BP64-00045C	KNOB CONTROL;P3,ABS,HB,WP1000	1

MEMO

5. Schematic Diagrams

5-1 ANALOG 1

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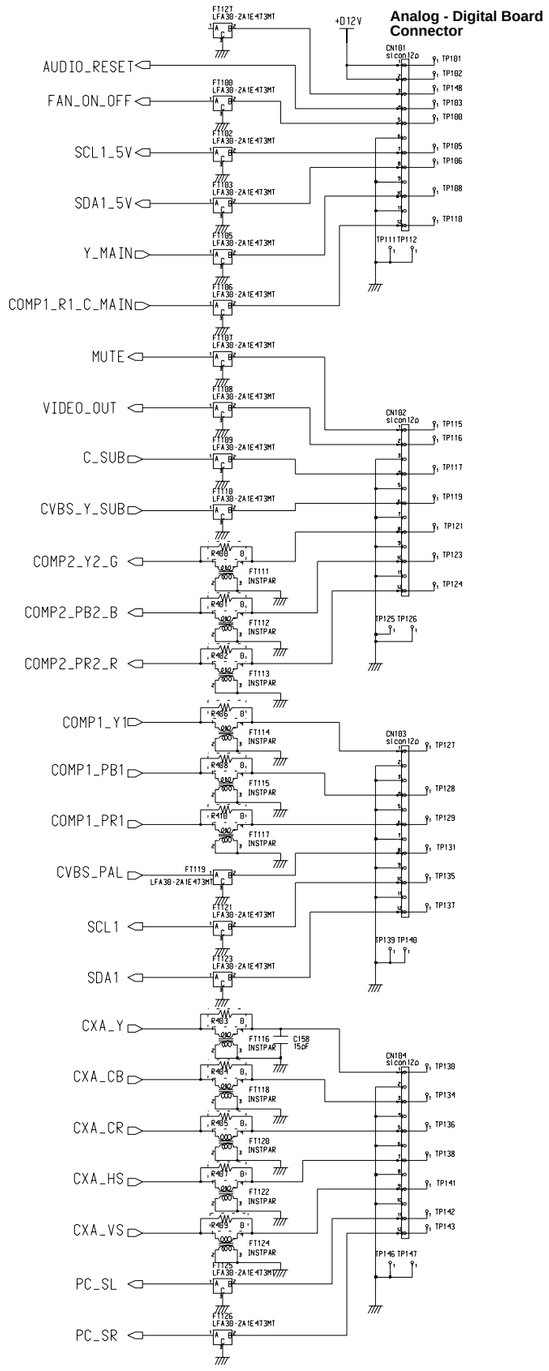

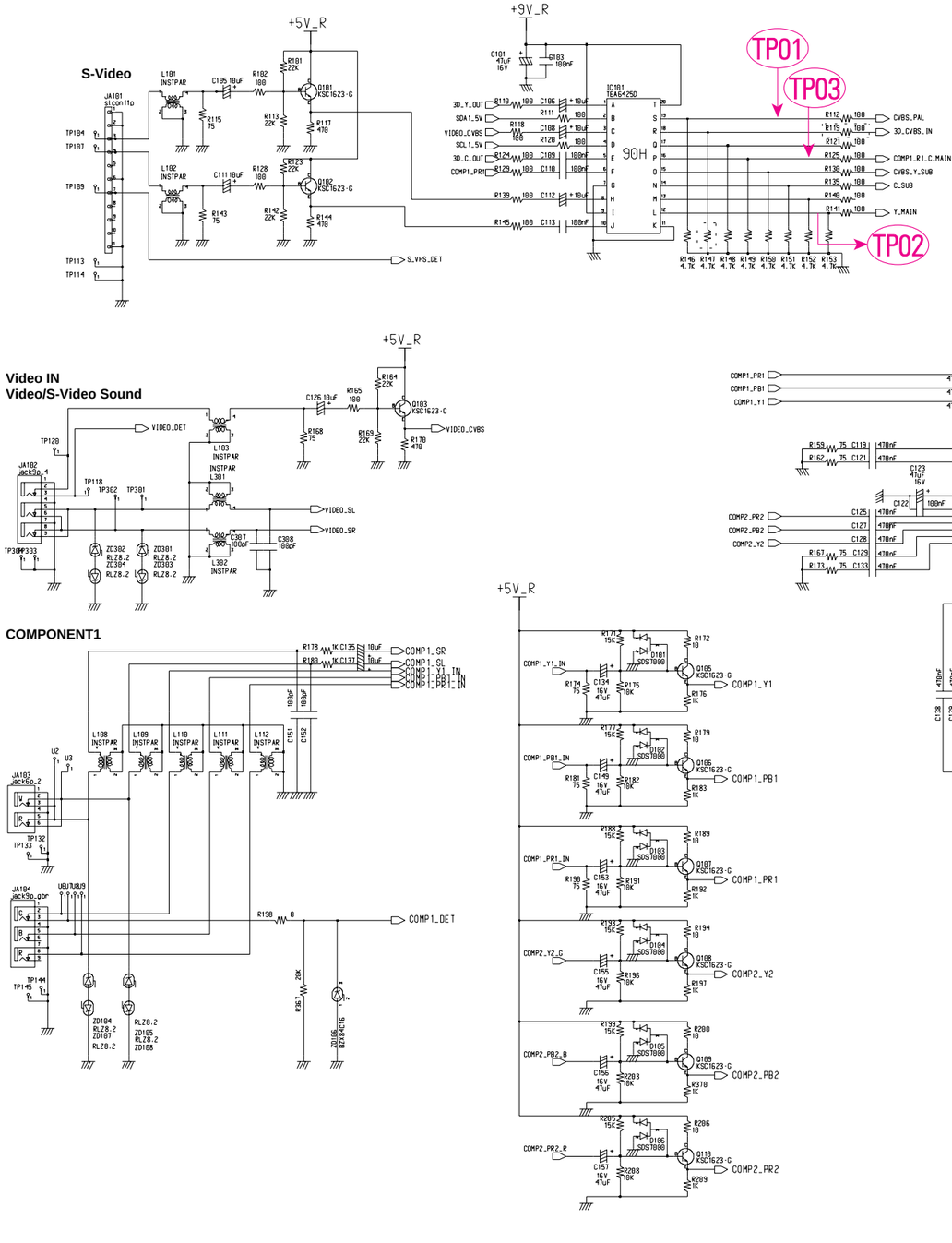

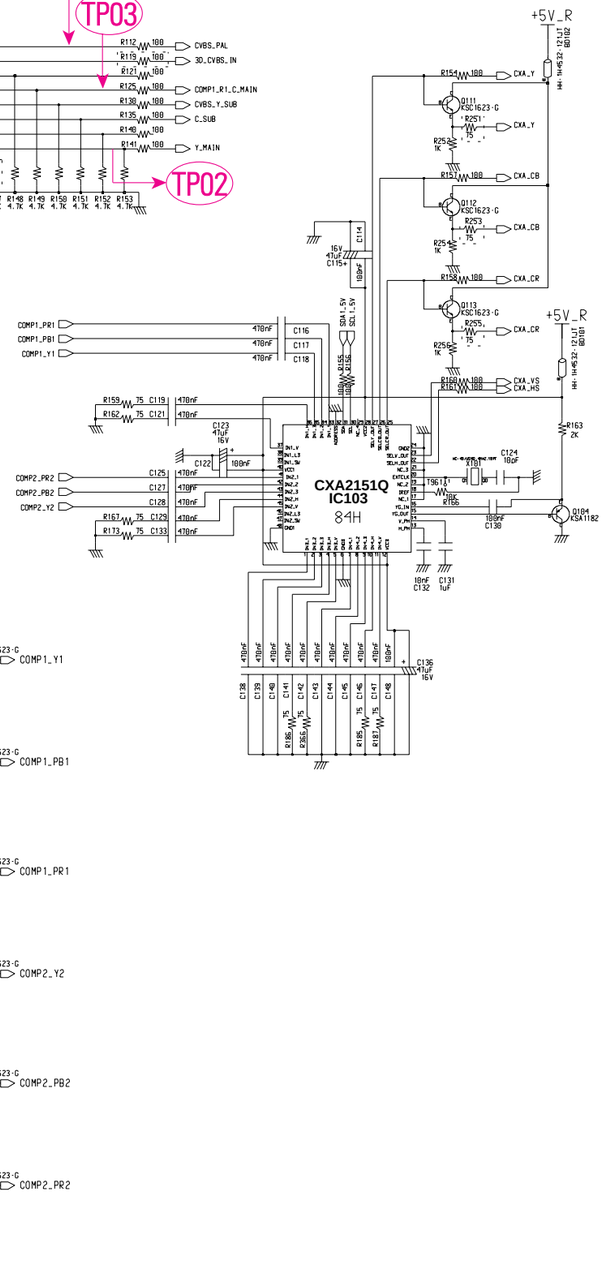

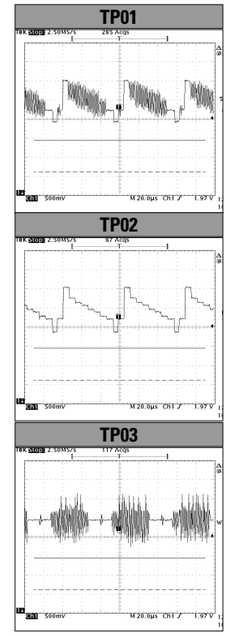

5-2 ANALOG 2

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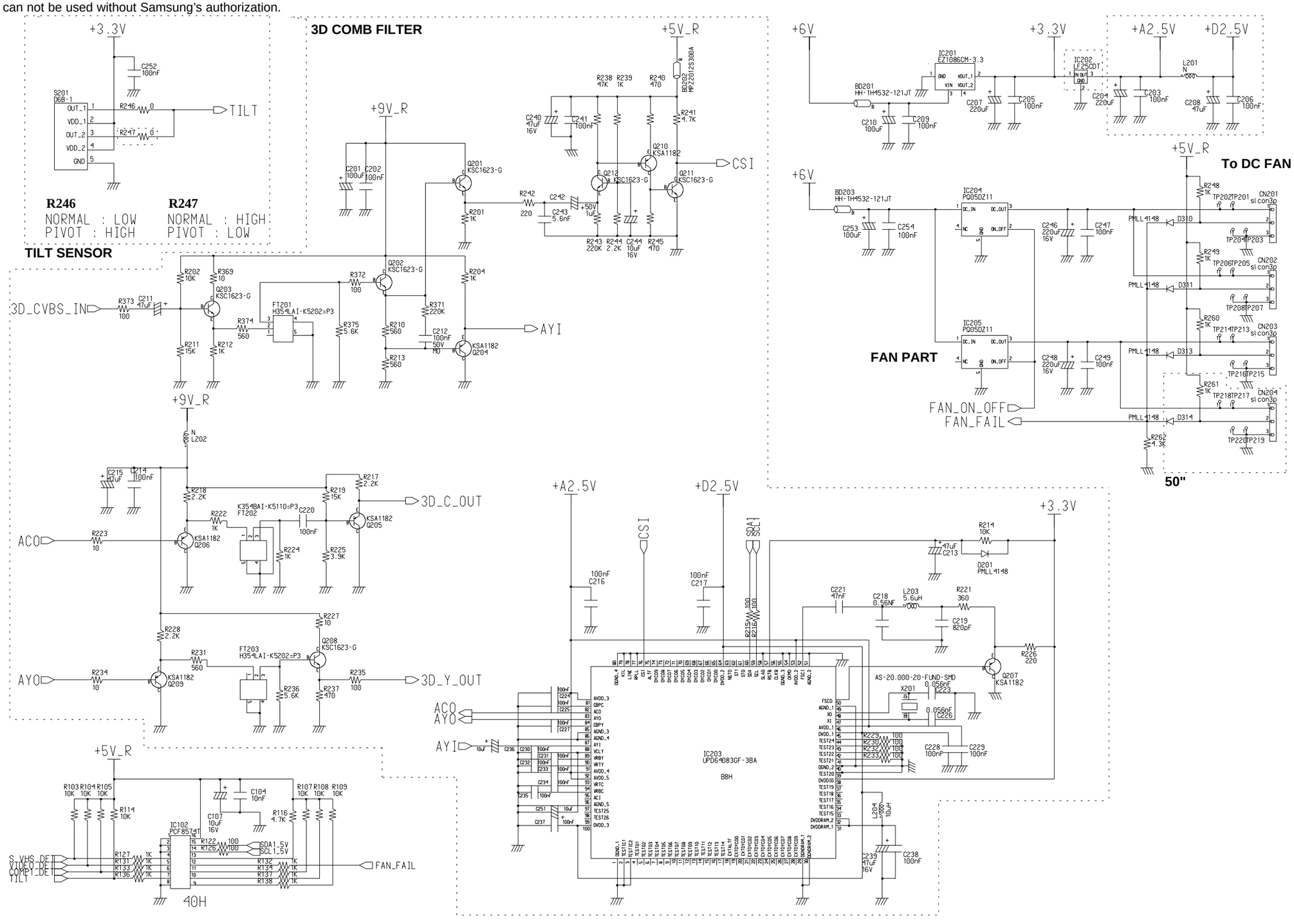

5-3 ANALOG 3

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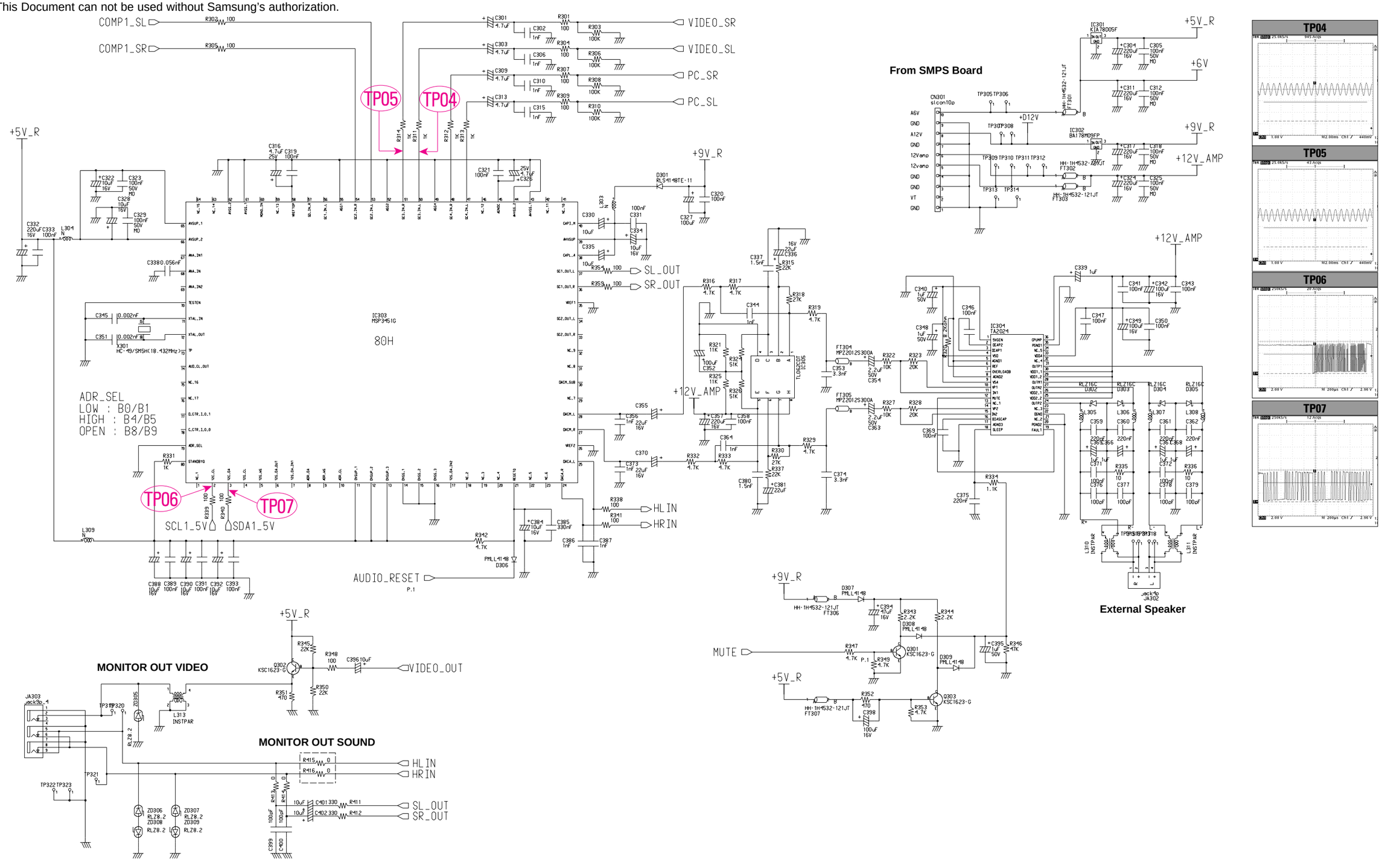

5-4 CONTROL

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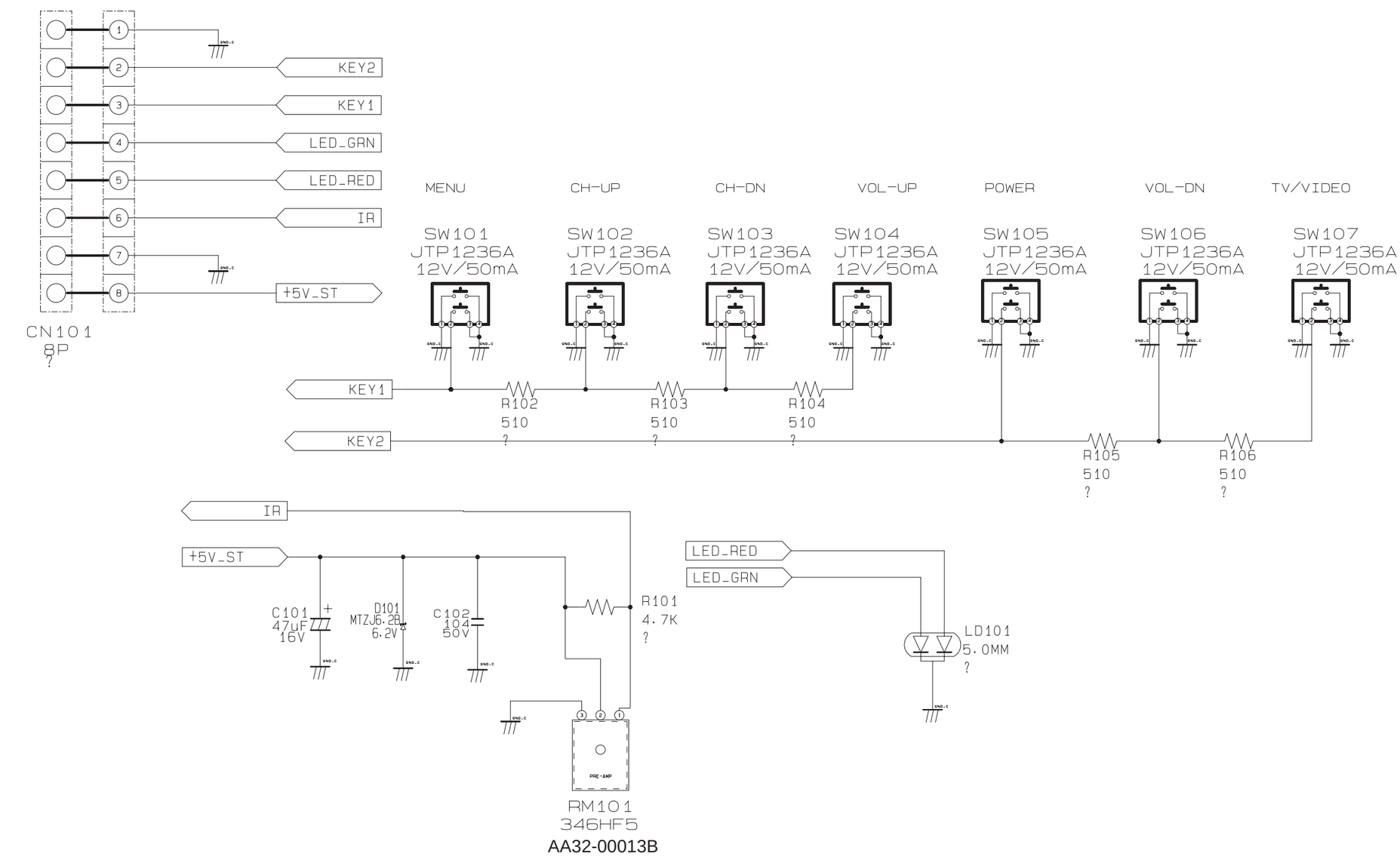

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5-5 SMPS 1

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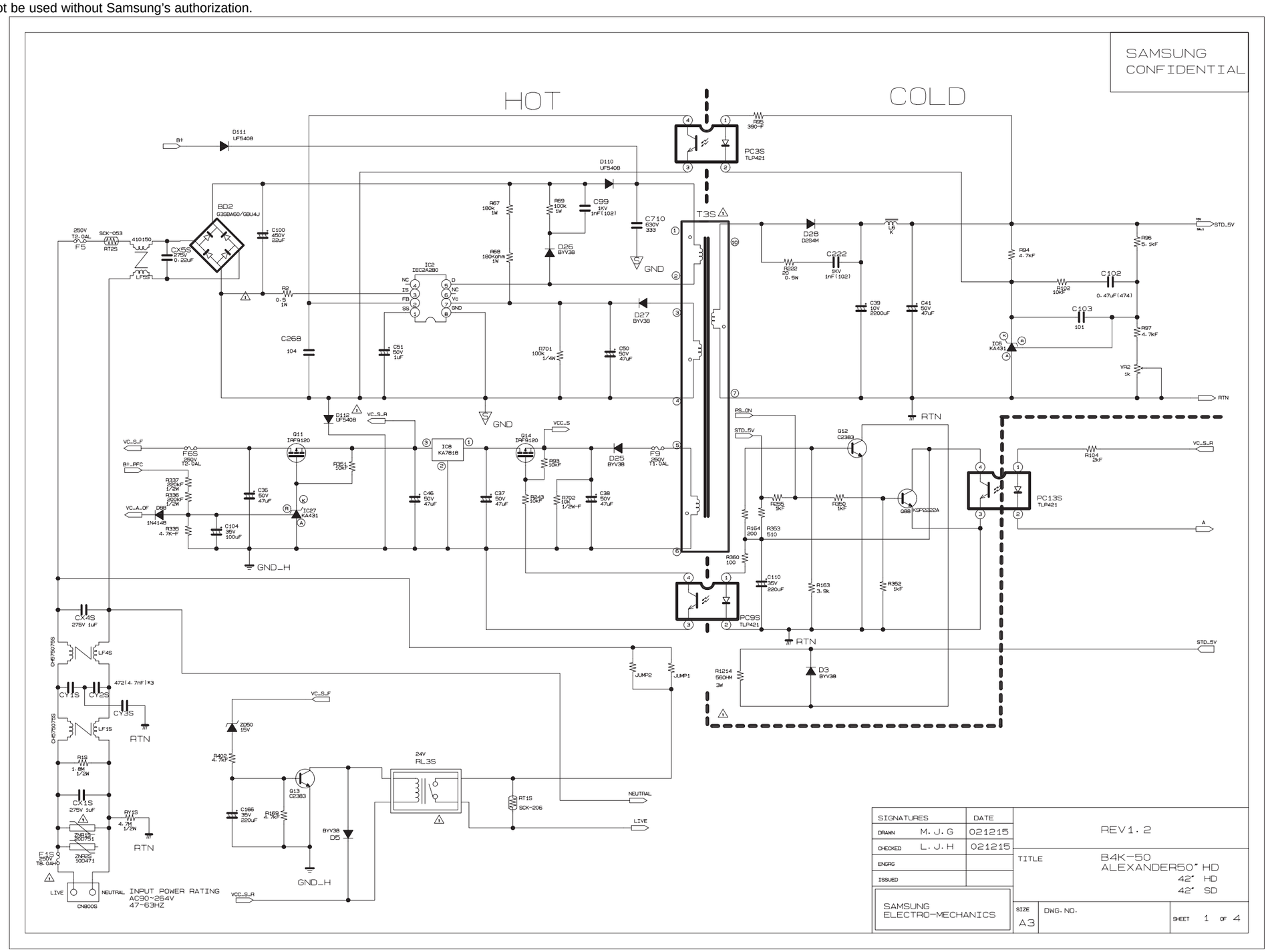

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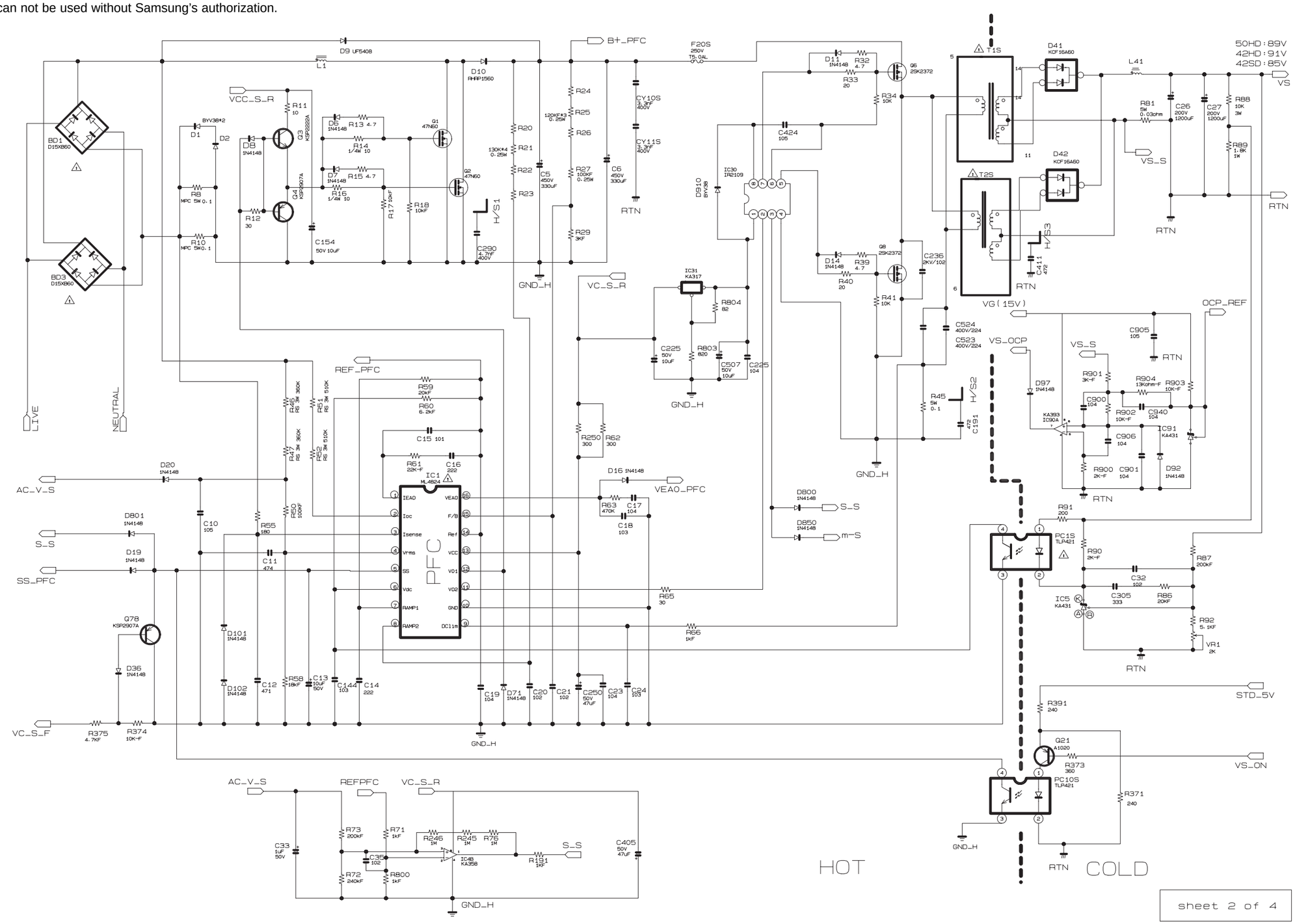

5-7 SMPS 3

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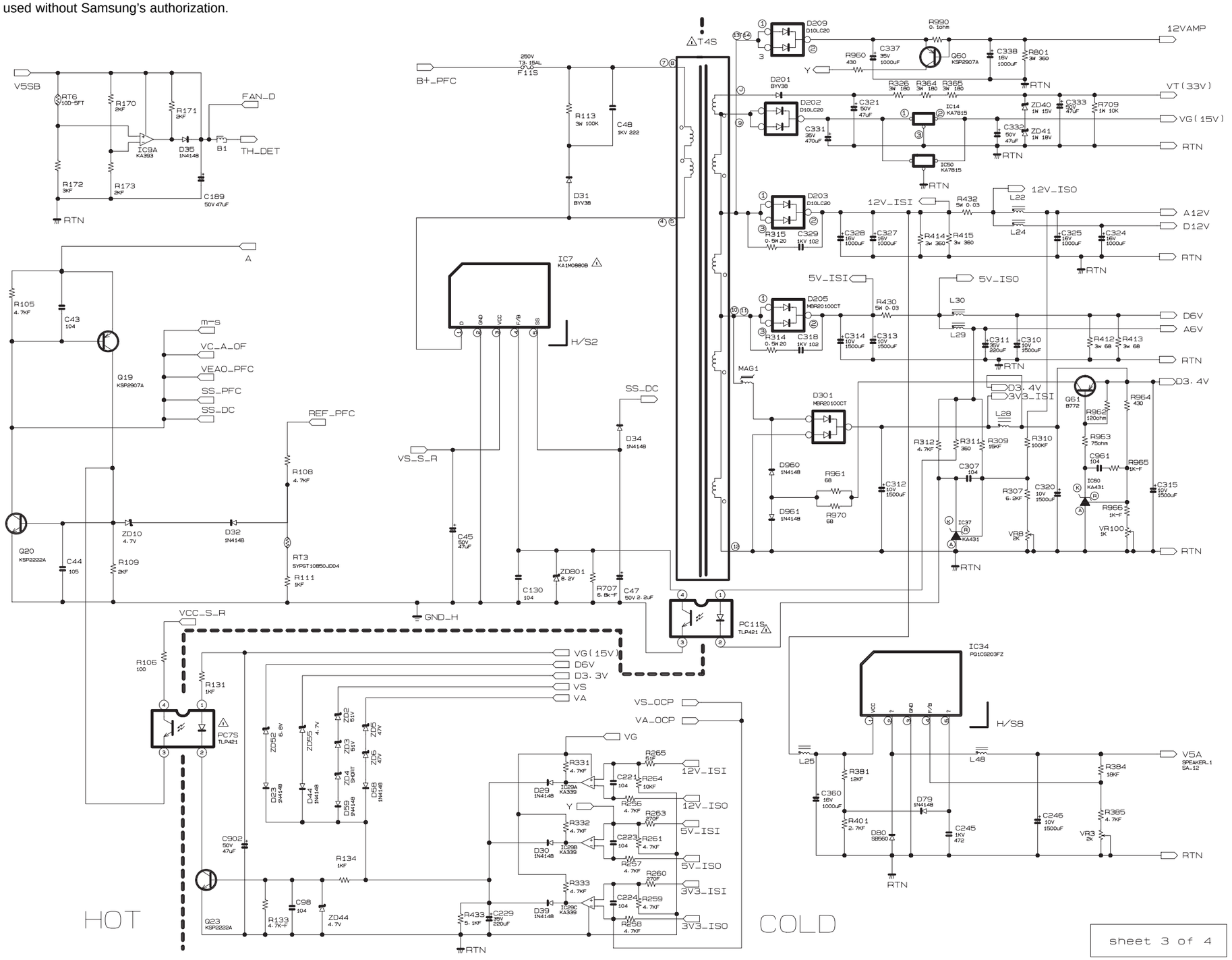

5-8 SMPS 4

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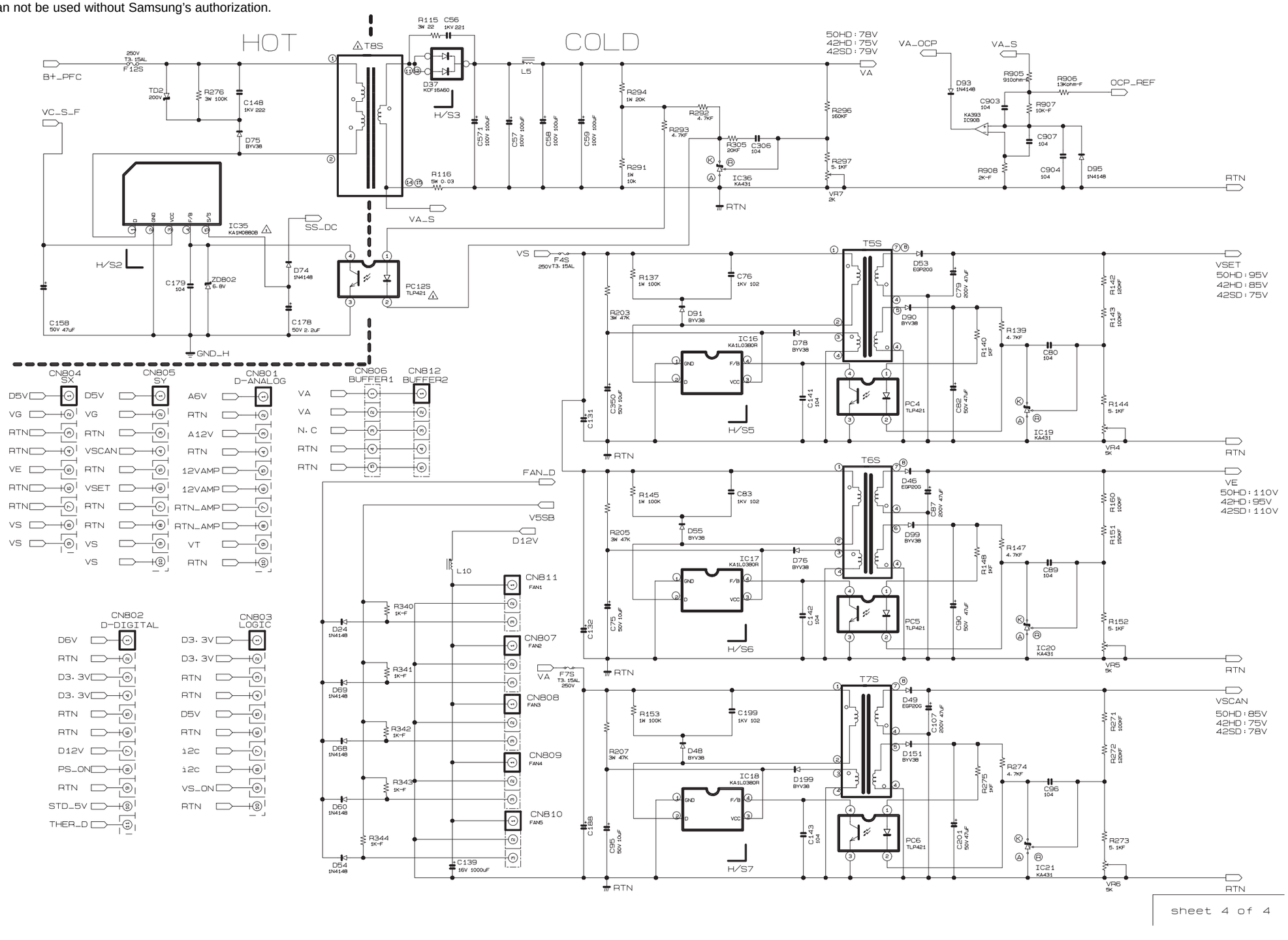

5-9 DIGITAL 1

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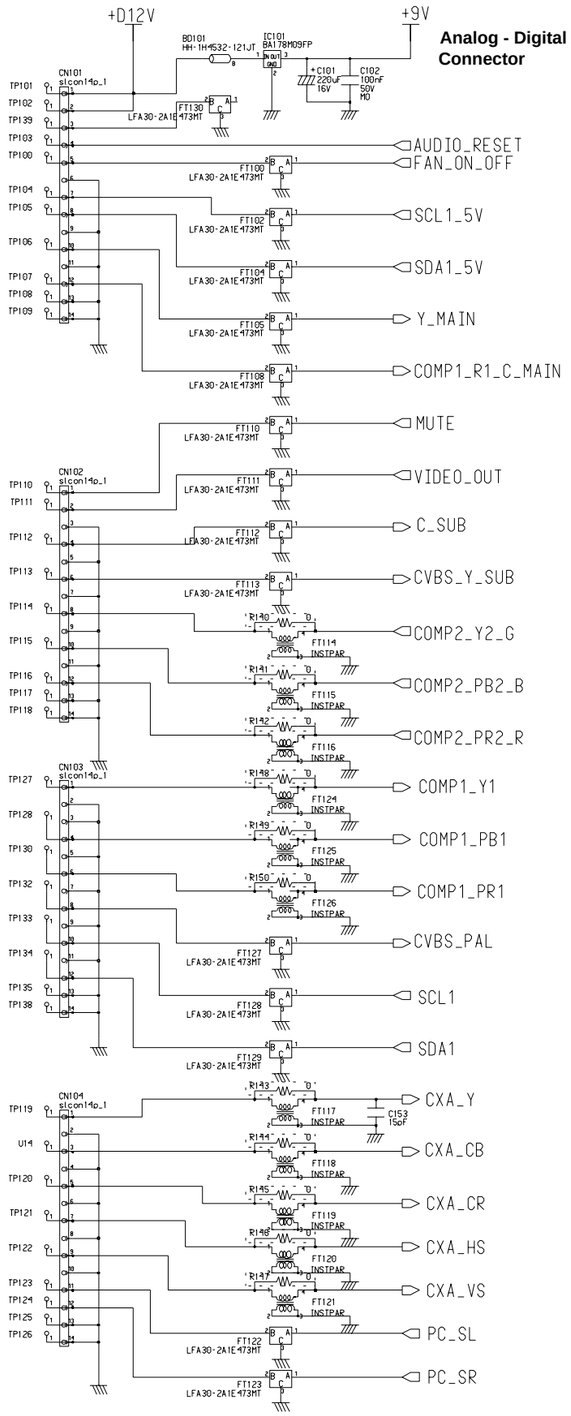
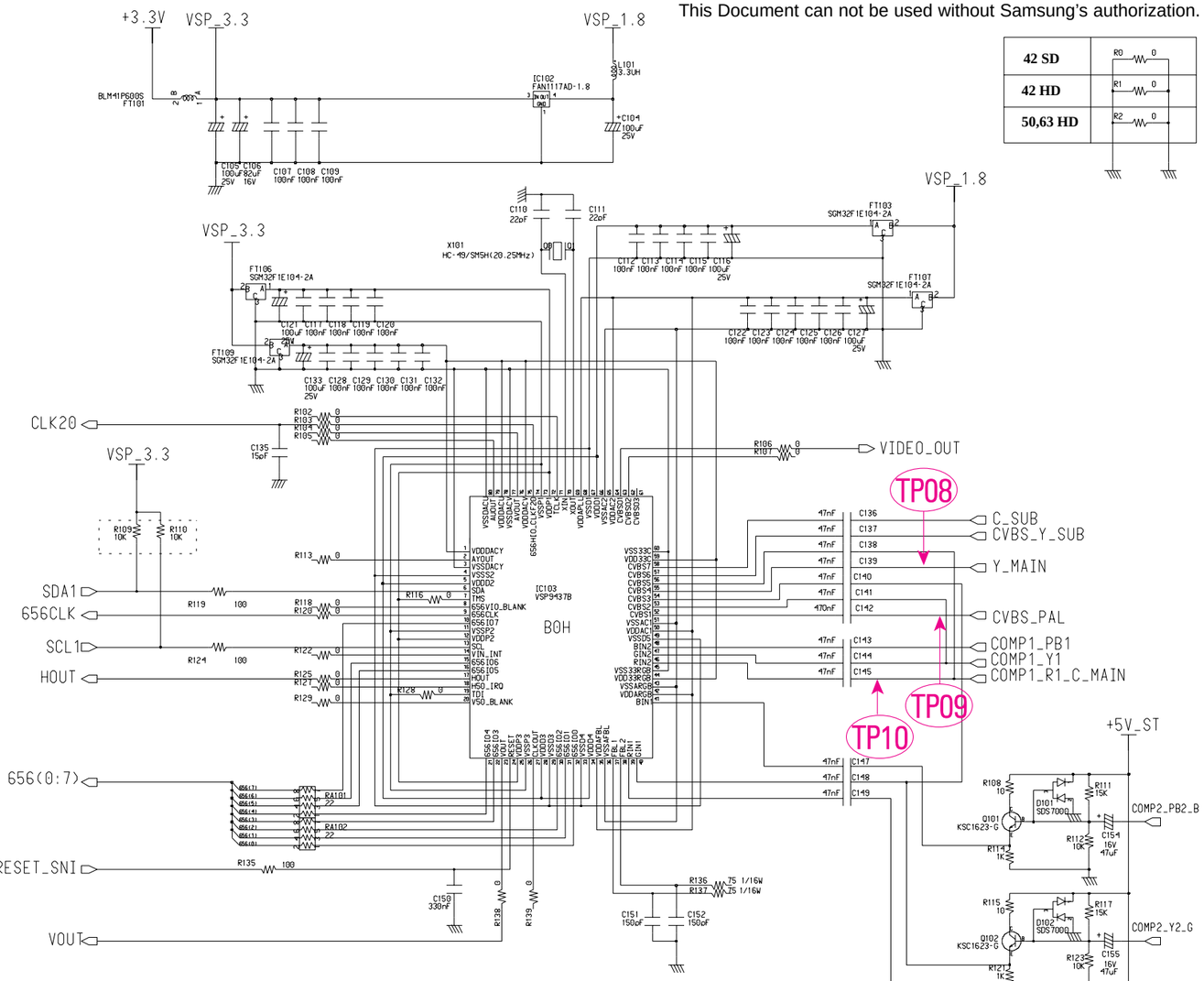
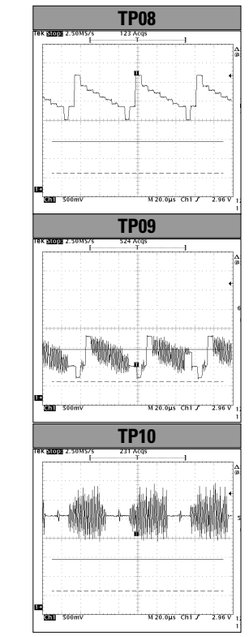
Analog - Digital board Connector

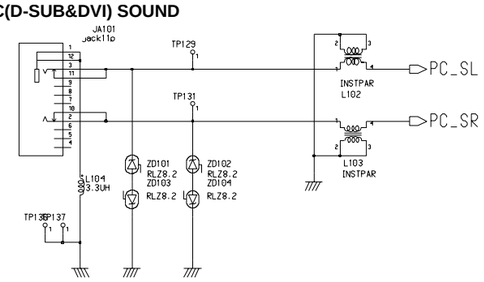
42 SD	R0 0
42 HD	R1 0
50,63 HD	R2 0







PC(D-SUB&DVI) SOUND



5-10 DIGITAL 2

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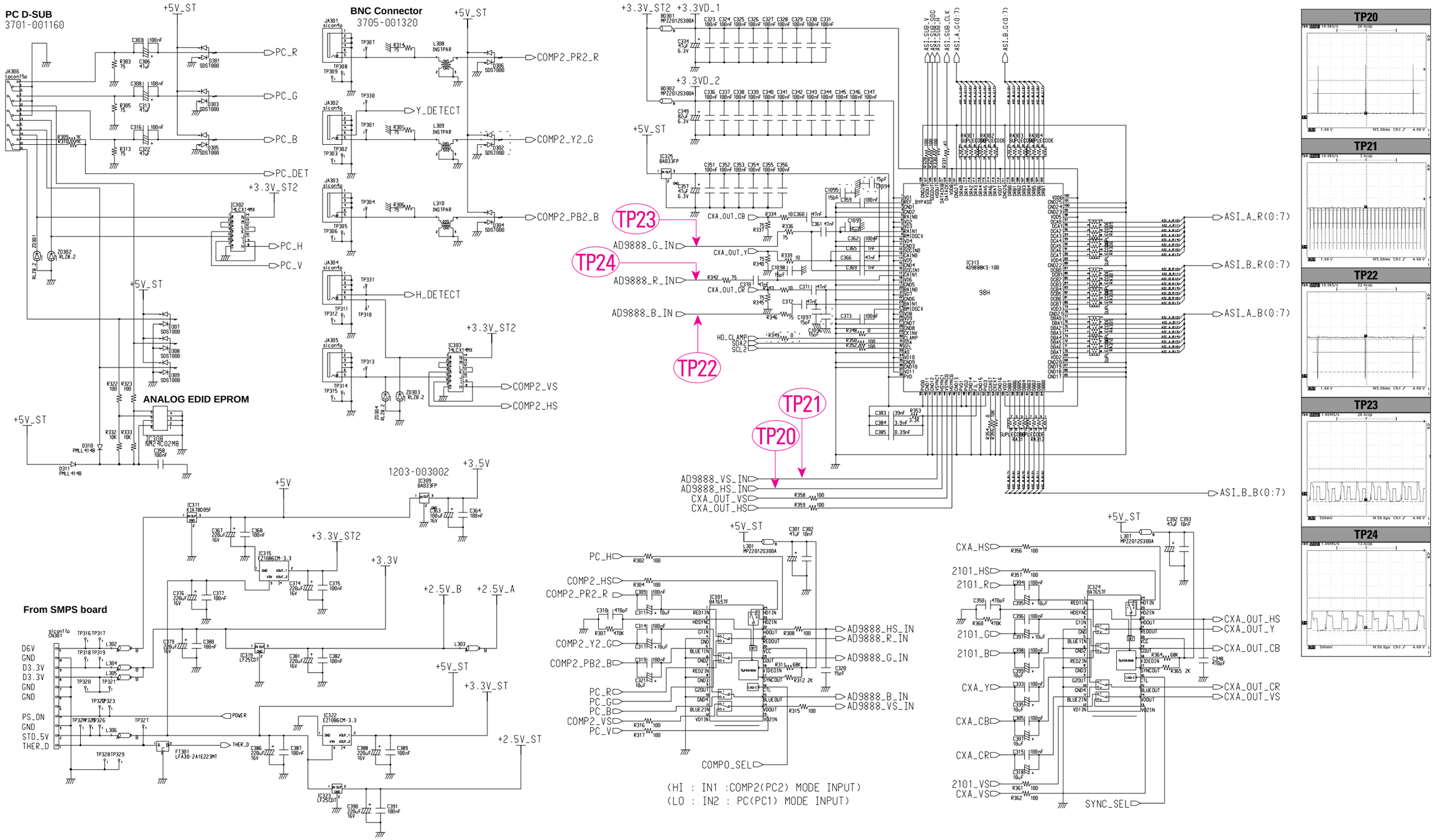

5-11 DIGITAL 3

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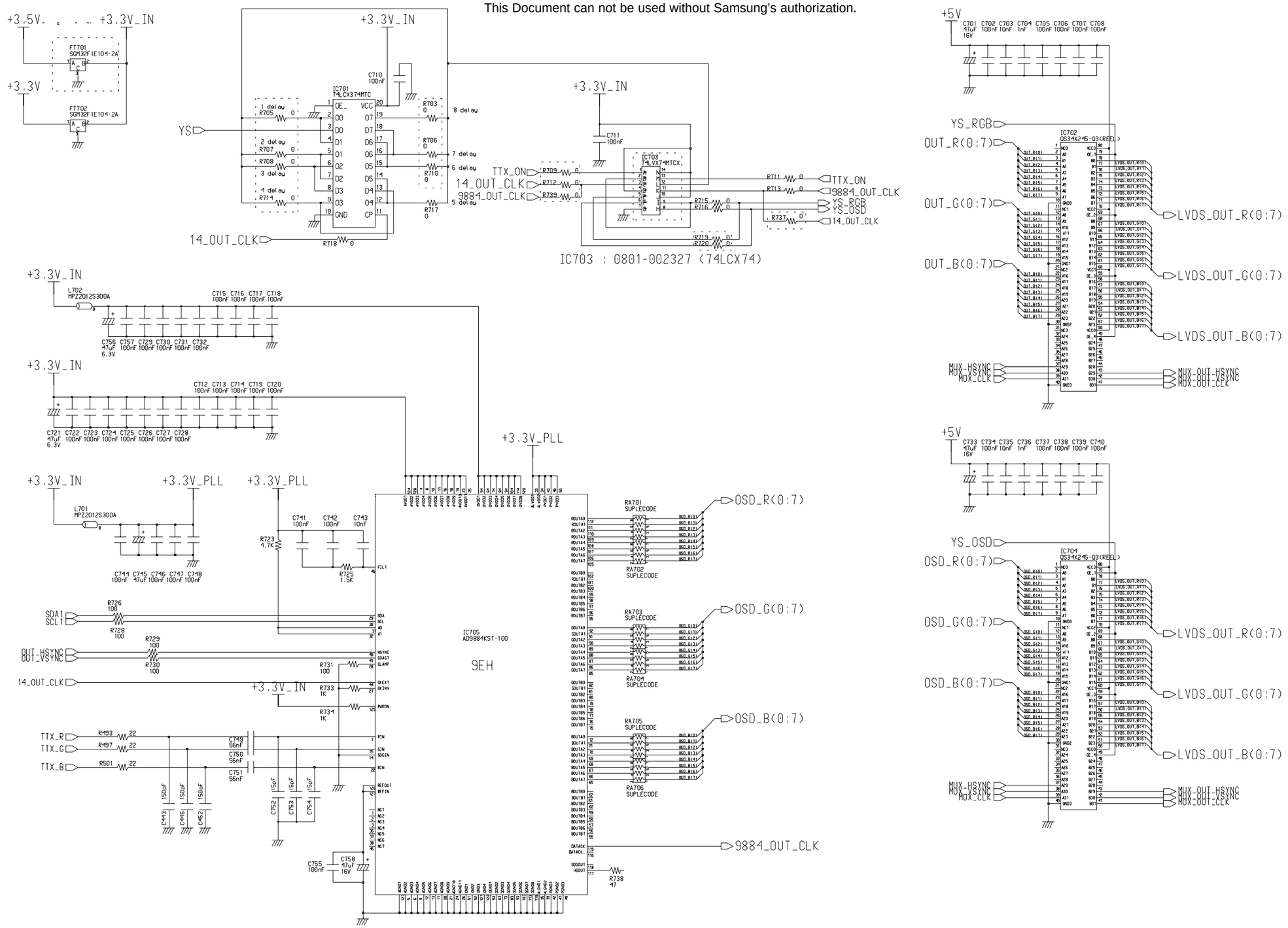

5-12 DIGITAL 4

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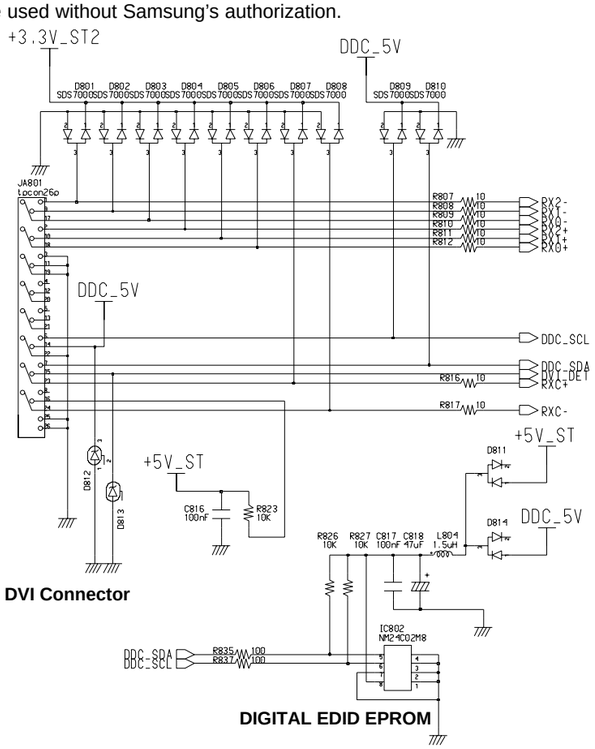

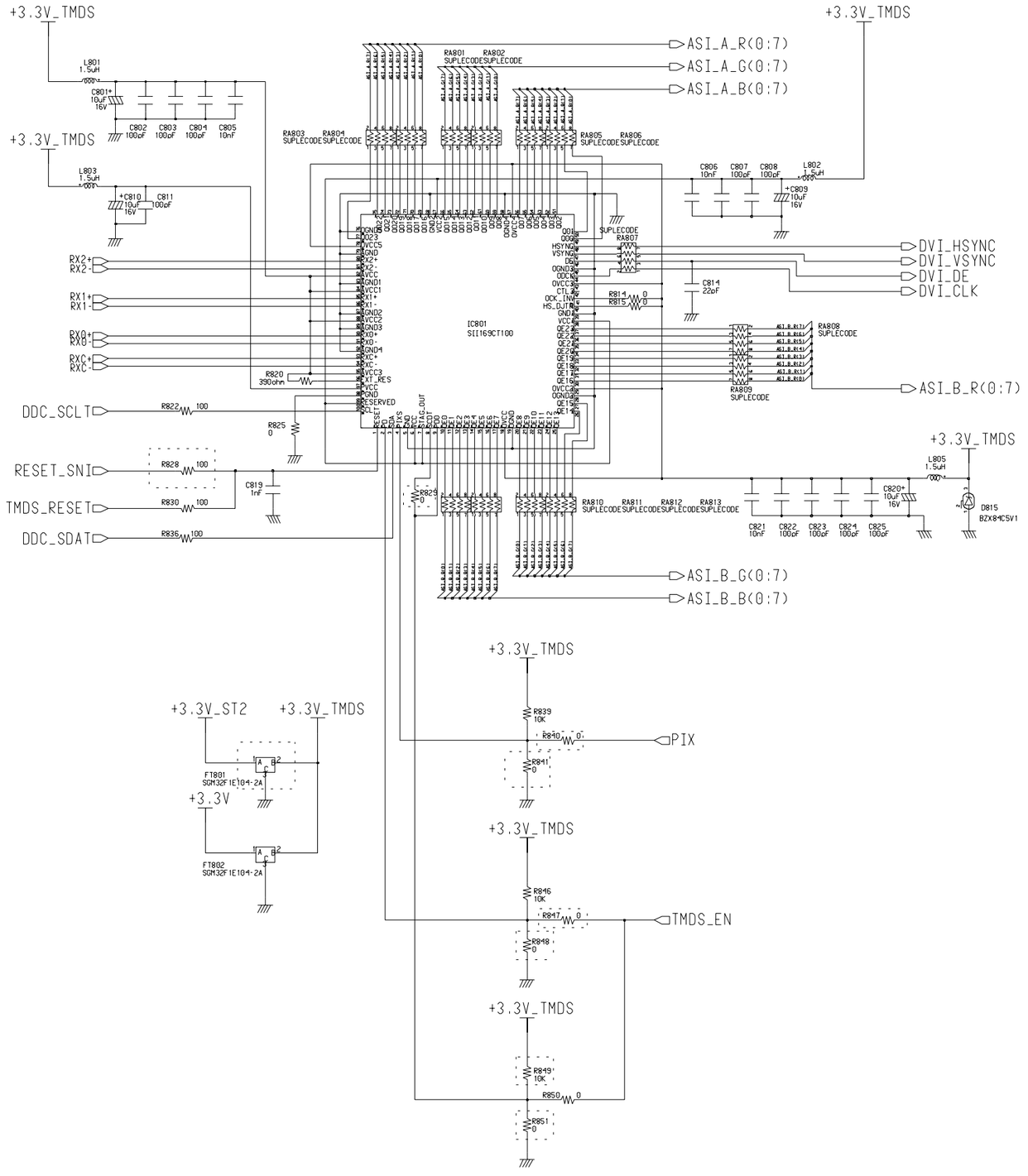

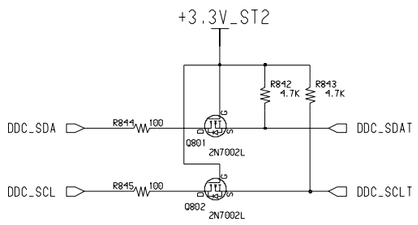

5-13 DIGITAL 5

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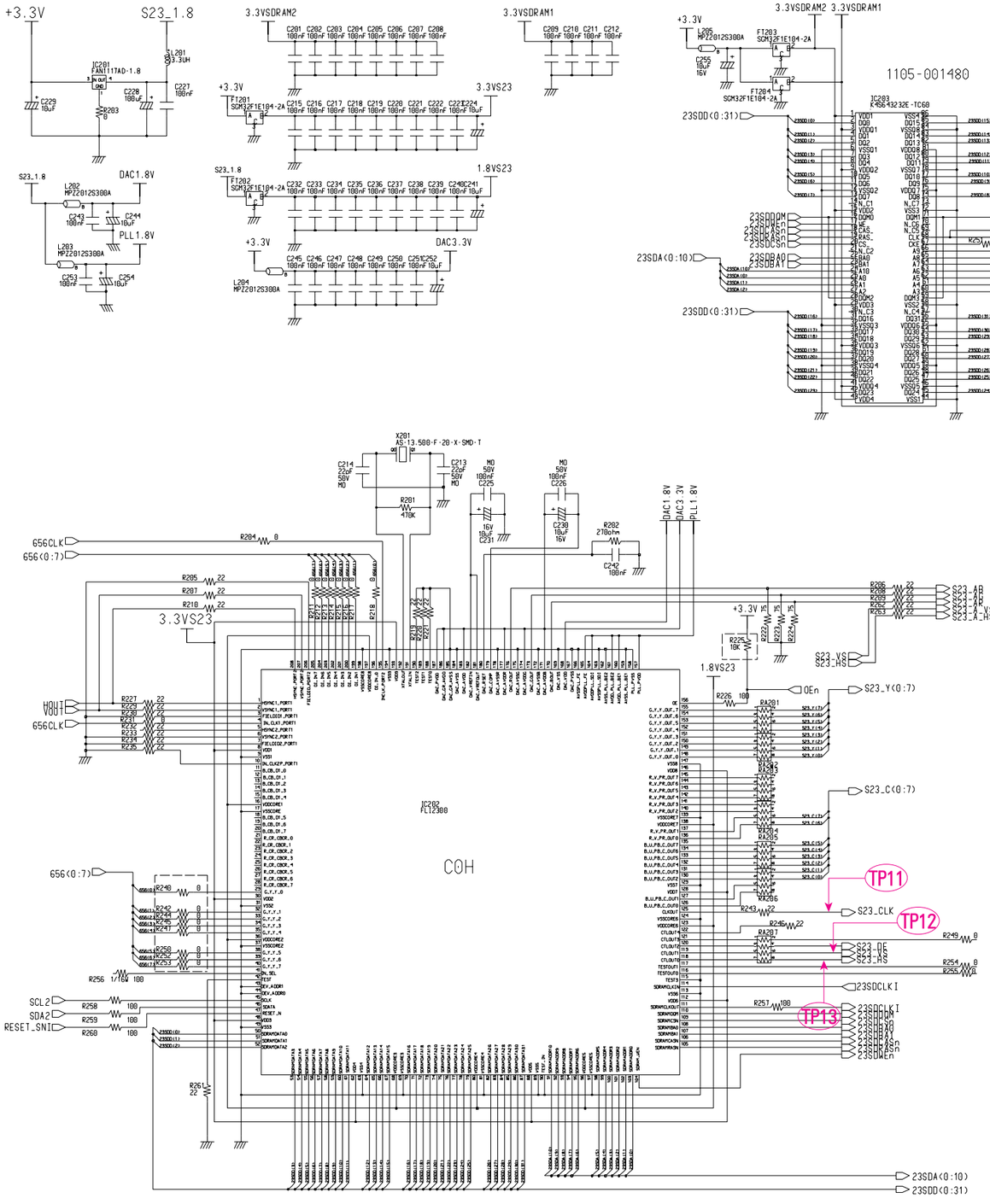

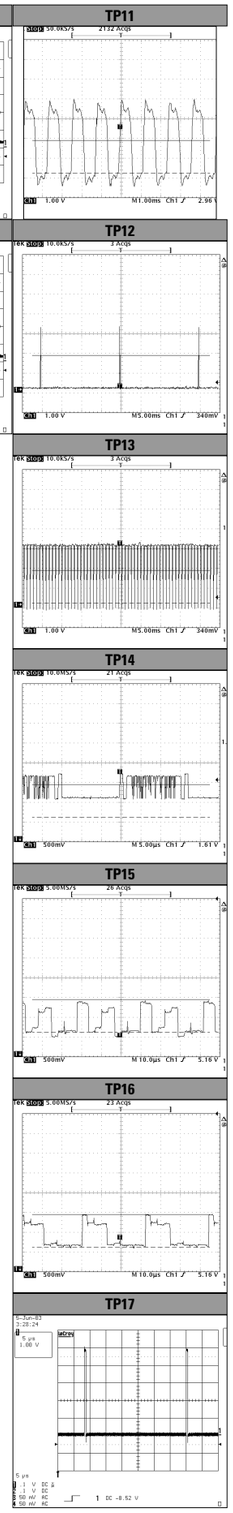

5-14 DIGITAL 6

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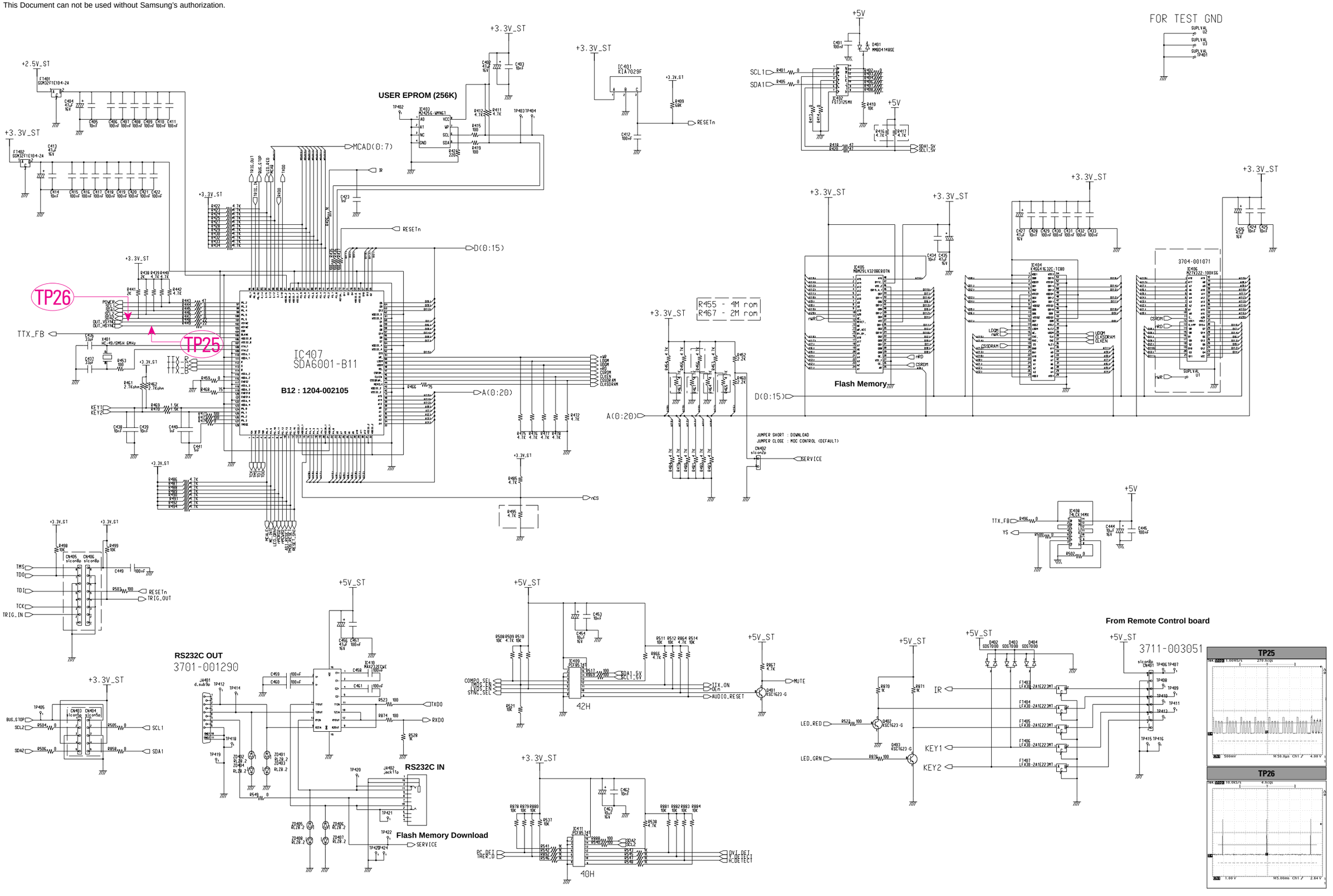

5-15 DIGITAL 7

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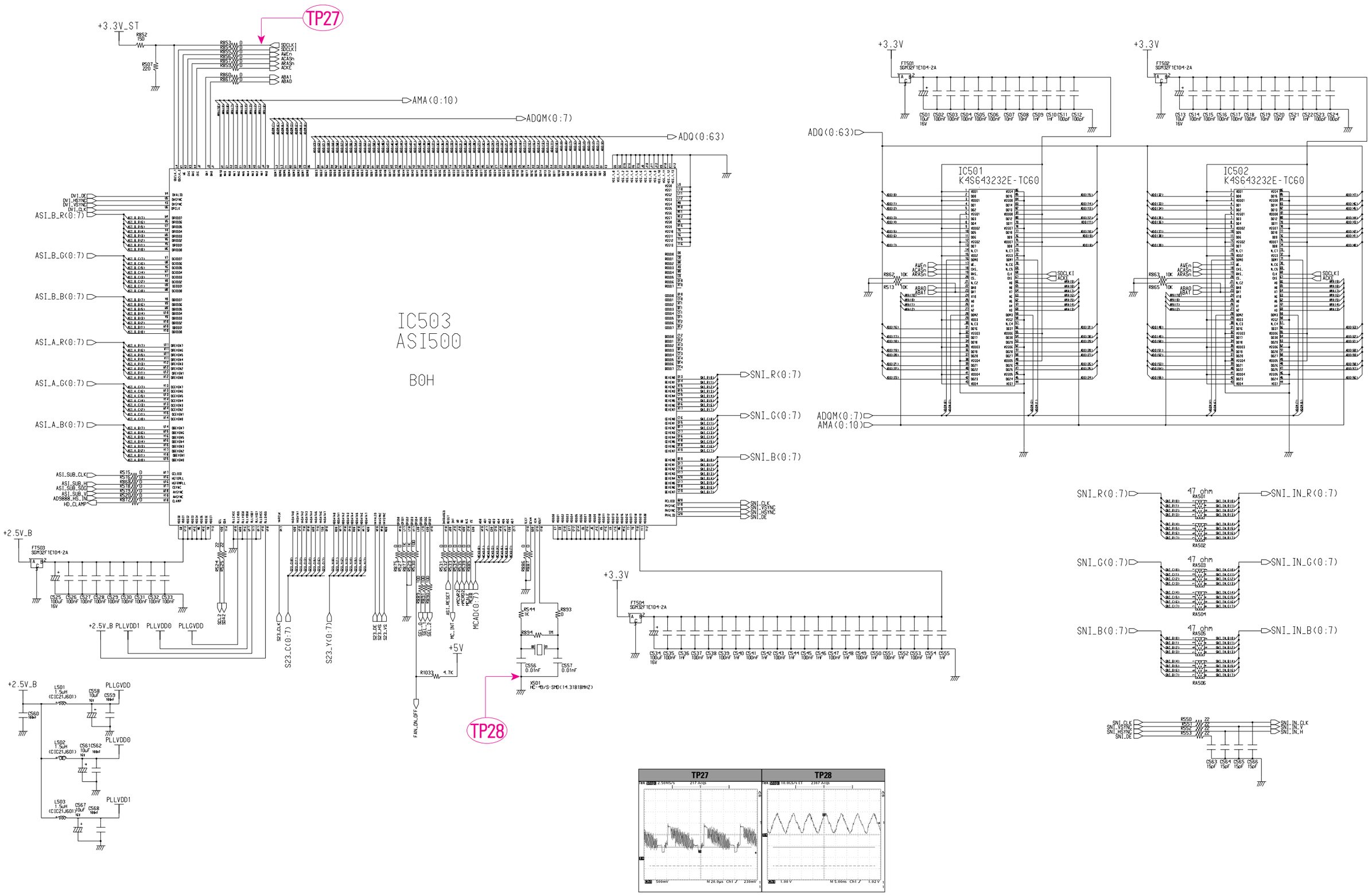

5-16 DIGITAL 8

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